

local exchange carrier for purposes of the Section 251(c) unbundling and resale obligations, and (2) be deemed a nondominant carrier.¹¹

II. The Prohibition Against a BOC's Provision of In-Region, InterLATA Service Inhibits Much-Needed Investment in the Internet Backbone

Each of the petitioners presents a compelling case of a nascent marketplace in need of decisive action by the Commission to permit -- indeed, "*encourage*" -- competitive infrastructure investment and deployment by those with both the resources and proficiencies to do so effectively. The need for infrastructure investment is particularly acute in the area of the Internet backbone.

A. The Lack of Backbone Capacity is Resulting in Serious Internet Congestion

The current limitations on the capacity of the backbone have resulted in significant congestion.¹² This condition is getting worse, not better. The extended Keynote/Boardwatch study cited by Bell Atlantic showed that over a six week period, the *average* speed at which users could download from the Internet was only 40 kilobits per second, significantly slower than current "fast" (56 kbs) modems can accommodate, less than a third of the top speed of full ISDN (128 kbs), and a micro-fraction of the forecasted attainable speeds of newer ADSL (6 Mbs) and cable modem (10 Mbs) technologies.¹³ Particularly disturbing is that this reported nationwide

¹¹ *Id.*, at 22-27

¹² Kevin Werbach, *Digital Tornado: the Internet and Telecommunications Policy*, OPP Working Paper Series No. 29, FCC, March 1997, at 52-54.

¹³ Bell Atlantic Petition, Appendix 2, at 22 (citing Keynote Press Release, *Keynote Systems Clocks True Speed on the Internet Highway at 5,000 Characters per Second, or Only 40 Kbs*, Oct. 21, 1997).

average speed was about 5 percent *slower* than the results achieved in a comparable study conducted *only four months earlier*.¹⁴

This congestion renders ineffective advancements in “The Last Mile” technology, such as xDSL. A recent press release from Keynote Systems underscores this point: “Simply increasing bandwidth to the home is similar to widening the city streets between your home and the nearest freeway -- you still may not drive to work any faster because the freeway is as congested as ever. Internet performance problems will only be solved through widespread improvements to its infrastructure.”¹⁵ Compounding the impact of this harsh reality is the negative spiral of incentives it spawns. As consumers come to learn that the true speed of their Internet connections has less to do with the local access technology they use and is more determined by the speed of congested backbone networks, they will have little if any incentive to buy or pay a premium for the faster access technologies. As demand wanes, local exchange carriers will have no incentive whatsoever to continue to invest in development and deployment of such fast access technologies.¹⁶

The inadequacies of the backbone are exacerbated in small cities and rural communities. US West notes: “The facilities that make up the Internet backbone are not evenly distributed across the country. The high-speed links of the network -- DS-3 links (45 megabits per second)

¹⁴ *Id.* (citing Keynote Systems and Boardwatch Magazine, *Keynote and Boardwatch Internet Backbone Index*, Nov. 11, 1997, <http://www.keynote.com/measures/backbones/backbones.html>).

¹⁵ Keynote Press Release, *Internet Speed Limit Impedes Full Potential of High-Speed Internet Access Over ‘The Last Mile,’* February 13, 1998, <http://www.keynote.com/news/announcements/pr021398.html>

¹⁶ Developers and vendors of cable modems and wireless high speed data solutions will also suffer from the same customer reaction to unfulfillable promises of faster internet services.

and above -- connect only the largest cities, leaving smaller communities behind.”¹⁷ An Internet service provider (“ISP”) in a smaller community is thus constrained to use a slower link, and generally at a higher price. That ISP’s traffic is then aggregated and routed to a backbone provider’s point of presence, which unlike in the urban areas, is likely not to be redundant. “[B]ecause rural subscribers and ISPs connect to the backbone lower in the hierarchy, their connections are of lower quality and more prone to congestion than similar connections in urban areas.”¹⁸

B. The Lack of Competition in the Internet Backbone Industry Exacerbates the Congestion Problem

To compound the problem of growing congestion, there is the growing concentration of players in the Internet backbone provider industry. This raises serious concerns that the prevailing system of voluntary and symmetrical arrangements between Internet networks will give way to the emergence of a dominant network able to “achieve the critical mass [necessary] to impose discriminatory interconnection charges.”¹⁹ Indeed, as shown by Bell Atlantic, the WorldCom/MCI merger will create a backbone provider accounting for, depending on the source of the estimate, between fifty (50%) percent and eighty (80%) percent of domestic Internet traffic. Whatever the reported measure, these levels of concentration lead to Herfindahl-Hirshman Index scorings of *multiple* times the 1800 level,²⁰ which the Commission has deemed

¹⁷ US West Petition, at 9.

¹⁸ US West Petition, at 22.

¹⁹ Bell Atlantic Petition, Hazlett Aff., at 4.

²⁰ *Id.*, at 5-8 (demonstrating HHI scores ranging from 2401 to 6400).

to “show a highly concentrated market in which certain combinations are likely to create or enhance market power or facilitate its exercise,” absent a strong showing otherwise.²¹

C. BOCs Should Be Free to Invest in the Internet Backbone Without the Constraints of the Prohibition Against the Provision of In-Region, InterLATA Services

The solution lies in having new players enter into the fray. “Intensifying competitive rivalry to induce added investment in the supply of high-capacity, high-speed Internet transport facilities is the one reliable method for accomplishing such pro-consumer results. Competition has historically propelled new investments in advanced telecom capabilities and the delivery of advanced services to every segment of the market.”²² The Bell Operating Companies (“BOCs”) are well positioned to provide the type of competition that can make a difference. They have the experience and resources to address the present deficiencies in the infrastructure. In addition, “RBOCs have powerful incentives to improve the capacity of long-distance Internet traffic, because higher speeds on the longer hauls increase demand for local bandwidth.”²³

The problem, however, is that Section 271 of the Telecommunications Act prohibits BOCs from providing in-region, interLATA service. The BOCs thus will have no incentive to build an interLATA Internet backbone until they can use that backbone.

Prompt approval of a BOC’s application to provide in-region, interLATA relief under Section 271 will go a long way to solving these problems. BellSouth has reviewed the recent orders of the Commission in connection with its Section 271 petitions for South Carolina and

²¹ *Id.*, at 5 (citing *Amendment of Parts 20 and 24 of the Commission’s Rules -- Broadband PCS Competitive Bidding on the Commercial Mobile Radio Service Spectrum Cap*, Docket No. 96-59, Released June 24, 1996, at ¶ 96).

²² *Id.*, at 10.

²³ *Id.*, at 9.

Louisiana, and has reviewed other recent clarifications issued by the Commission. BellSouth has upgraded its Operational Support Systems to satisfy the requirements enunciated by the Commission, and expects to file petitions that the Commission will deem satisfy all the requirements of Section 271. Granting BellSouth's petitions will enable BellSouth to participate in the solution.

While Section 271 relief would be a step in the right direction, it nevertheless avoids the real issue, i.e., regulatory models based on the technology, economics, and industry structure of the historical, circuit-switched, voice telephony marketplace simply do not fit in the world of broadband, packet-switched data services. Applying traditional voice, circuit-switched LATA principles to the packet-switched data arena is like trying to force a square peg into a round hole. A circuit-switched call has a fixed end-to-end connection, whereas a packet-switched data transfer is connectionless, or put another way, there is only a logical connection. Ameritech describes a packet-switched transfer path as follows: "Instead of establishing an end-to-end transmission path, routers calculate the best routing for a packet at a particular moment in time, given current traffic patterns, and transmit that packet accordingly. [Citation omitted.] Even two packets from the same message may not travel the same physical path through the network: one may travel five miles, the other 500. In this respect, routing over a packet-switched network transcends all notions of geographic boundaries, including LATAs."²⁴

The existing rules not only are not designed for the packet-switched market, but in fact, hinder its development. The Bell Atlantic, US West and Ameritech petitions thus squarely present the circumstance contemplated by Congress when it directed the Commission in Section

²⁴ Ameritech Petition, at 11.

706 to exercise its regulatory authority, or to *refrain* from exercising its regulatory authority, so as “to encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.”²⁵

The Commission should begin to use the regulating authority at its disposal in the context of the roadblocks to infrastructure investment created by interLATA restrictions. This not only will counter the trend in industry concentration (and its attendant opportunities for anticompetitive abuse), but will also provide the BOCs (and others) the appropriate incentives to continue to develop and deploy high speed data technologies. The marketplace should be free to operate to provide the choice of product/network solutions that will optimize network usage. Thus, the challenge is to create the environment that will permit innovative solutions to develop.

III. All other Regulatory Roadblocks to the Deployment of High Speed Data Technologies Should Be Removed As Well.

The Bell Atlantic, US West and Ameritech Petitions list a variety of other barriers to the deployment of high speed data services, e.g., the requirement under Section 251(c) to unbundle the elements associated with these services;²⁶ the manner in which the Commission has required these unbundled elements to be priced;²⁷ the requirement to make these services available for resale at the discounted rate;²⁸ and the application of price cap regulation to these services.²⁹ These are not the only roadblocks, but they do provide an excellent starting point. The

²⁵ Telecommunications Act of 1996, Public Law 104-104, §706(a), 110 Stat. 56, 153

²⁶ Bell Atlantic Petition, at 4; US West Petition, at 44-52; Ameritech Petition, at 22-27.

²⁷ Ameritech Petition, at 22.

²⁸ Bell Atlantic Petition, at 18; US West Petition, at 44-52; Ameritech Petition, at 22-27.

²⁹ Bell Atlantic Petition, at 17.

Commission should not stop there, but should instead seek to locate and remove any regulatory barrier that impedes the development of innovative technologies.

While there are a plethora of restrictions, all three petitioners have focused their sights, and for good reason, on the threats posed by Section 251. The unbundling and resale requirements of Section 251 place the incumbent LEC in a position of taking all the risks associated with developing new technologies, and bearing all the costs of the unsuccessful ventures, yet sharing with its competitors the rewards of the successes. Requiring an incumbent LEC to share its rewards with its competitors inhibits the development and deployment of new technology. This is contrary to the purpose and intent of Section 706. The way to create incentives to innovation, as Commissioner Powell noted, is by “[g]ranting greater proprietary rewards to the innovator, allowing him to exclude others from his creation or expression for some period of time, as in the intellectual property context.”³⁰ Commissioner Powell went on to add, “Policymakers must be careful not to allow anti-discrimination or other policies to foreclose the ability of firms to benefit from their own innovations.”³¹

The Commission has the ability to interpret Section 251 in a manner that will promote the policy goals stated in Section 706. The language in Section 251(c) is silent on whether the obligations imposed therein apply to the incumbent LEC networks only as those networks existed when the 1996 Act became effective, or to new technology deployed subsequent to that date as well. In the Interconnection Order, the Commission did not decide whether Section 251(c)

³⁰ *Supra*, Note 1.

³¹ *Id.*

extends to new network technologies.³² The Commission is thus now free in this proceeding to interpret Section 251 in a manner consistent with Section 706, and determine that Section 251(c) applies only to an incumbent LEC's network as that network existed when the 1996 Act became effective.³³ In doing so, the Commission would promote competition and encourage innovation by permitting incumbent LECs to retain the benefits of new technologies introduced into their networks.

With respect to unbundling, the Commission also has the discretion, under Section 251(d)(2),³⁴ to determine what network elements should be unbundled. When read *in pari materia* with Section 706(a), the Commission could find that an incumbent LEC is not required to provide unbundled access to its high-speed, advanced broadband services such as xDSL, so long as the incumbent LEC continues to make available the underlying network elements, e.g., conditioned xDSL loops.

³² See, e.g., *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No., 96-98, and *Interconnection between Local Exchange Carriers and Commercial Mobile Radio Providers*, CC Docket No. 95-185, First Report and Order, FCC 96-325 (1996) ("Interconnection Order"), para. 451 ("In this section, for example, we expressly limit the provision of unbundled interoffice facilities to *existing* incumbent LEC facilities.") (emphasis in original); and para. 427 ("At this time, we decline to find . . . that incumbent LEC's packet switches should be identified as network elements.")

³³ The Commission gave virtually no consideration to the requirements of Section 706 in the Interconnection Order. The Commission buried Section 706 at the end of its discussion of Section 251 in two short sentences: "We decline to adopt rules regarding Section 706 in this proceeding. We intend to address issues related to Section 706 in a separate proceeding." Interconnection Order, para. 1268.

³⁴ 47 U.S.C. §251(d)(2) provides as follows:

In determining what network elements should be made available for purposes of subsection (c)(3), the Commission shall consider, at a minimum, whether (A) access to such network elements as are proprietary in nature is necessary; and (B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.

While the problems posed by Section 251 are particularly troublesome, they are not the only regulatory restrictions with which the Commission should be concerned. BellSouth does not intend in these Comments to limit the issues it believes the Commission should, at some point, address. Issues such as price regulation, depreciation and tariff filing requirements also present significant barriers to deployment of advanced telecommunications. The fact that BellSouth has not addressed such issues in these Comments should not be taken as a concession that it believes the issues should not be addressed. Those are all significant issues that should, in fact, be addressed.³⁵

IV. Conclusion

The Commission's mandate from Congress, enunciated in Section 706, is to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans." Such deployment is curtailed, however, because of regulatory roadblocks that create disincentives to investment. The petitions of Bell Atlantic, US West and Ameritech seek

³⁵ BellSouth will address these issues in more detail in its comments on the Section 706 petition of the Alliance for Public Technology, CCB/CPD docket No. 98-15.

to eliminatc some of these roadblocks. The Commission should embark upon a process that will lift the roadblocks, and result in the rapid deployment of advanced telecommunications.

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BELLSOUTH CORPORATION

By its Attorneys

A handwritten signature in dark ink, appearing to read "M. Robert Sutherland", is written over a horizontal line.

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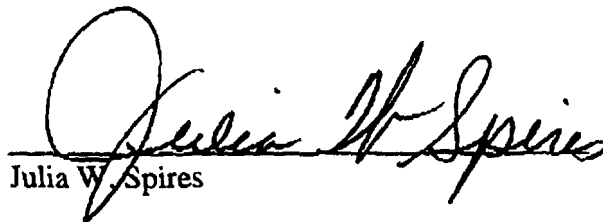
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CERTIFICATE OF SERVICE

I hereby certify that I have this 6th day of April 1998, serviced all parties to this action with the foregoing COMMENTS, reference docket CC Docket No. 98-11, CC Docket No. 98-26 and CC Docket No. 98-32, by hand service or by placing a true and correct copy of the same in the United States Mail, postage prepaid, addressed to the parties as set forth on the attached service list.


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